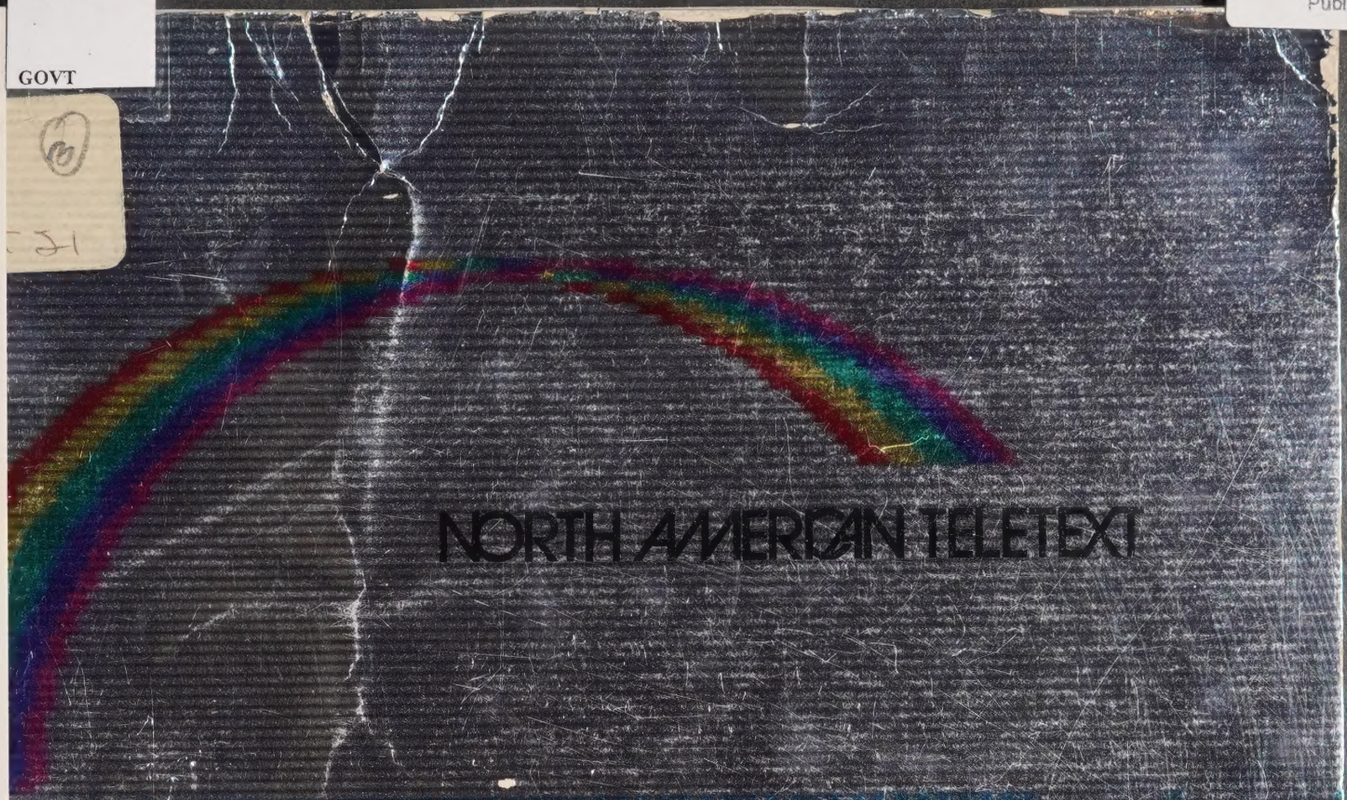
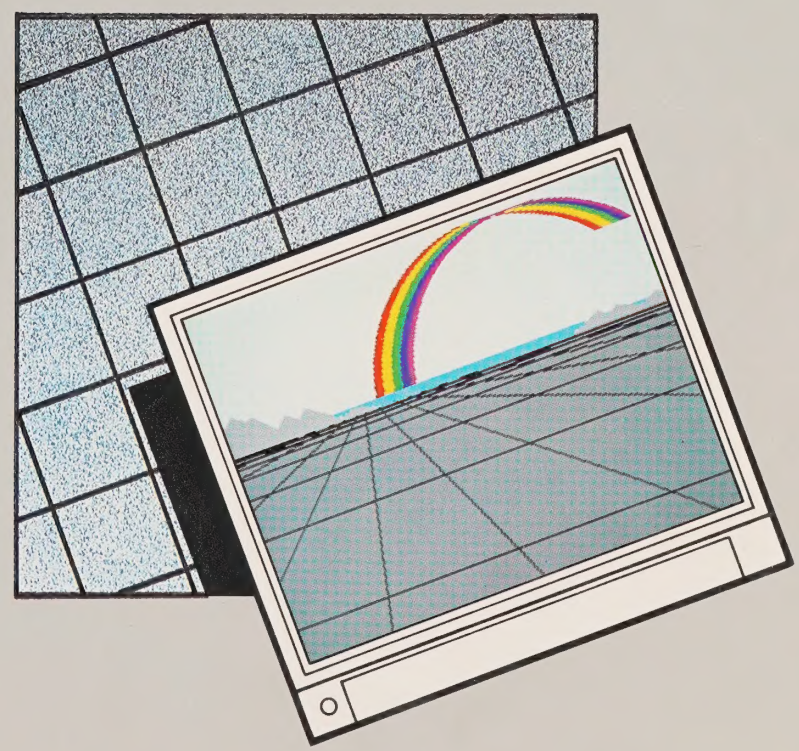
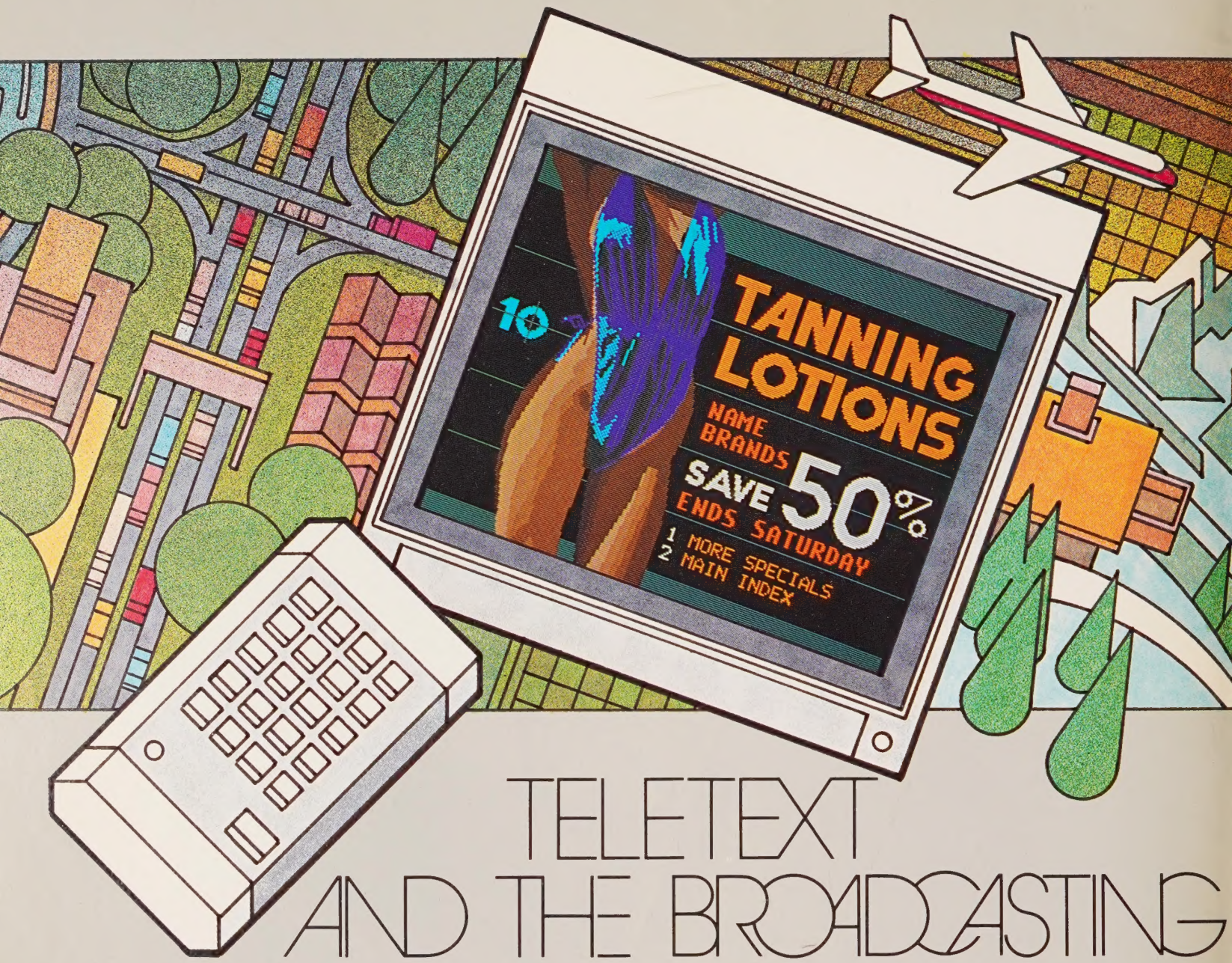


NORTH AMERICAN TELETEXT

PRAIRIE PROVINCES

TELETEXT, THE BROADCAST MAGAZINE

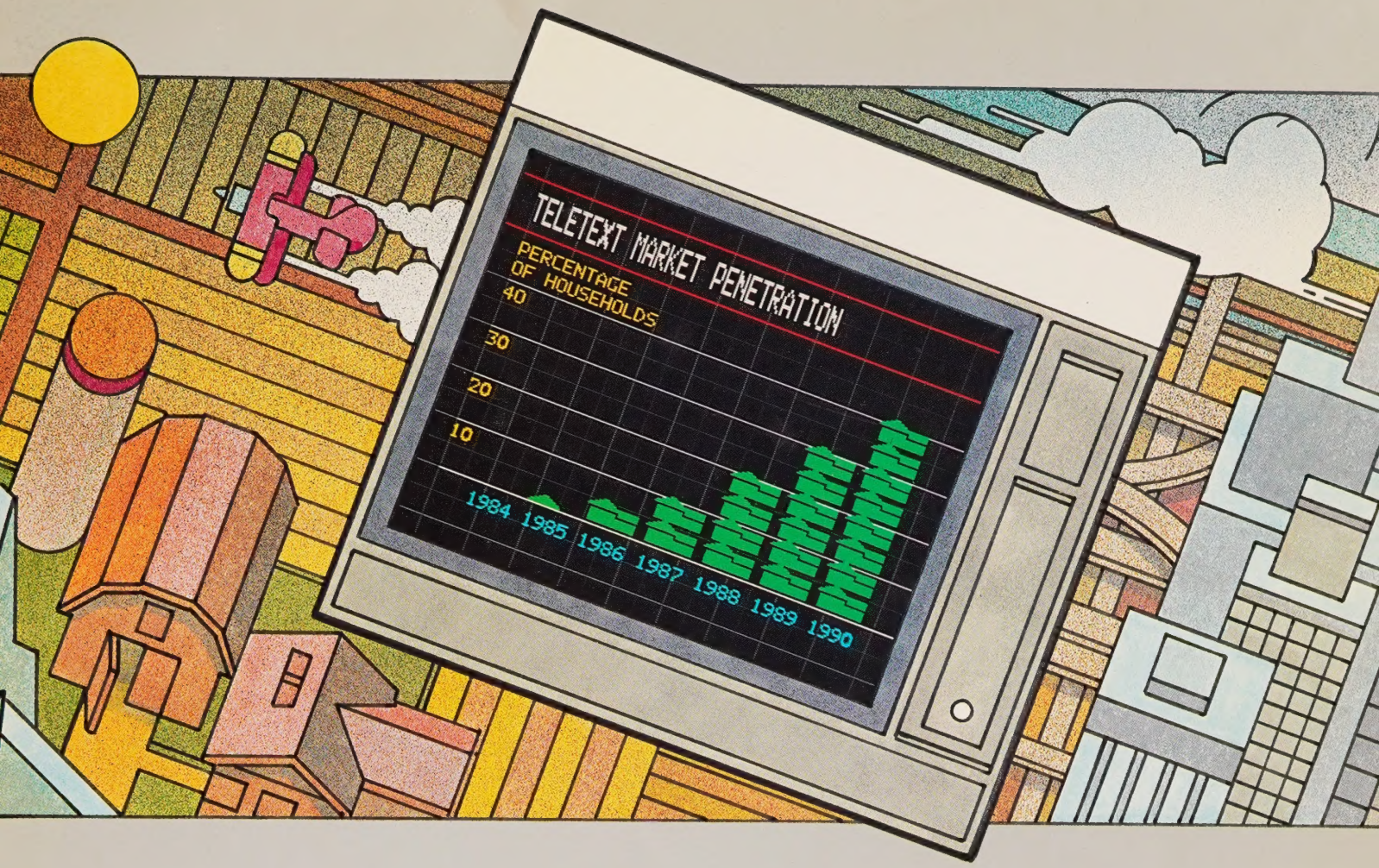




TELETEXT AND THE BROADCASTING REVOLUTION

This is an era of rapidly emerging electronic and communications technologies. An explosion in electronic publishing is already underway. Digital television, computer systems for TV news and weather reports, and pay-TV are transforming the broadcasting environment. The home television set has become the central delivery system for these revolutionary new services.

Through teletext, you can combine advanced electronic technology with the home television set. Teletext is a "broadcast magazine" of information which is encoded in the vertical blanking interval (VBI) of the regular broadcast signal or over a full channel. With a teletext decoder attached or built into an ordinary television set, viewers can push a button on a keypad to select electronic "pages" of text and graphics.



The "magazine" can contain from 250 to 10,000 "pages" of continuously updated news, information and advertising and can be changed during the broadcast day to complement regular programming.

Teletext carries far-reaching revenue opportunities for the "leading edge" broadcaster of the future. You can reach new audiences and local advertisers, and gain a share of the expanding markets for computer games, business information and newspaper advertising.

The North American Broadcast Teletext Standard (NABTS) has been endorsed by CBS, NBC, CBC (Canadian Broadcasting Corporation) and other major broadcast and cable interests across North America including Time Inc. Drafted by the working groups of the American Electronic Industry Association and the Canadian Standards Association, the new standard draws on early teletext systems developed by

Canada and France and includes technology enhancements and high quality graphics capabilities based on the Canadian Telidon system.

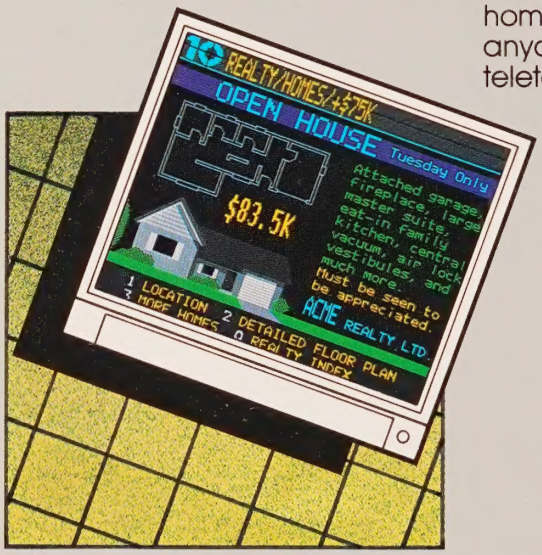
LEADING THE WAY

CBS, NBC and CBC are already broadcasting full NABTS teletext services nationwide, and major consumer electronics manufacturers will be producing and marketing inexpensive home decoders in the coming months.

Broadcasters are making important choices. Yesterday's mass audience is becoming specialized, computer-literate — and fragmented. Teletext offers a wide variety of innovative services, from games and entertainment information to flight schedules and seat availability.

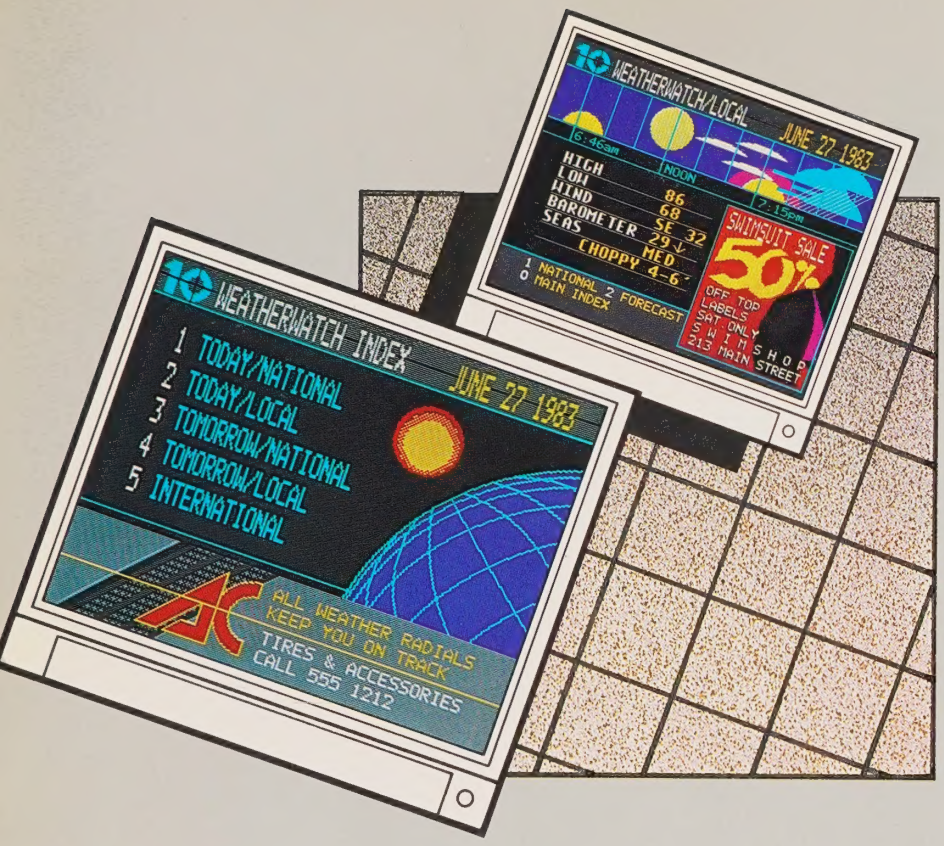
Teletext is the chosen path. The U.S. Federal Communications Commission recently gave approval for broadcasters to launch commercial teletext services. With a potential audience of every television household, the list of service providers is steadily growing.

The CBS Extravision teletext service is available to any subscriber or local affiliate with a teletext decoder. The multi-page service uses NABTS technology and is carried on CBS network broadcasts.



Using a full video channel, Time Inc. offers national and local teletext information for cable users in San Diego, California and Orlando, Florida. Canadian companies provided terminals, encoders, decoders and software for this 24-hour service which includes 5,000 pages of interesting, useful and up-to-the-minute information and computer games.

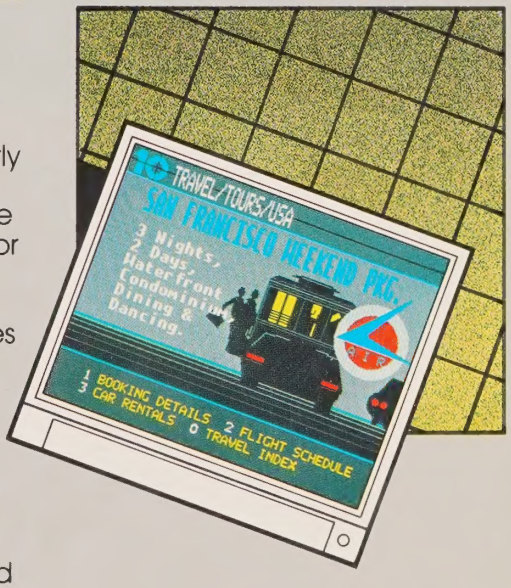
The Canadian Broadcasting Corporation uses NABTS equipment in its $6 million national teletext service. In its first phase, Project IRIS (Information Relayed Instantly from the Source) already offers 600 pages in two languages to 500 trial homes in Montreal, Toronto and Calgary. Viewers can access an average of 600 pages during a full broadcast day. A sophisticated system delivers the service via satellite as part of the CBC's national broadcast signal in seven time zones. In addition to serving trial homes, IRIS is also available to anyone in Canada with a teletext decoder.



Canadian companies supplied a wide variety of equipment and services for the WETA-TV teletext service in Washington. The multi-page magazine contains a new cycle of information each day, which includes up-to-date news, sports, weather and special reports. WETA also plans to expand its service with an "open channel" transmission of pages during non-regular-programming hours. This will enable viewers without decoders to access information in the teletext cycle. Public broadcasting stations are leading the way in the use of teletext for closed captioning, multi-language broadcasts and educational services.

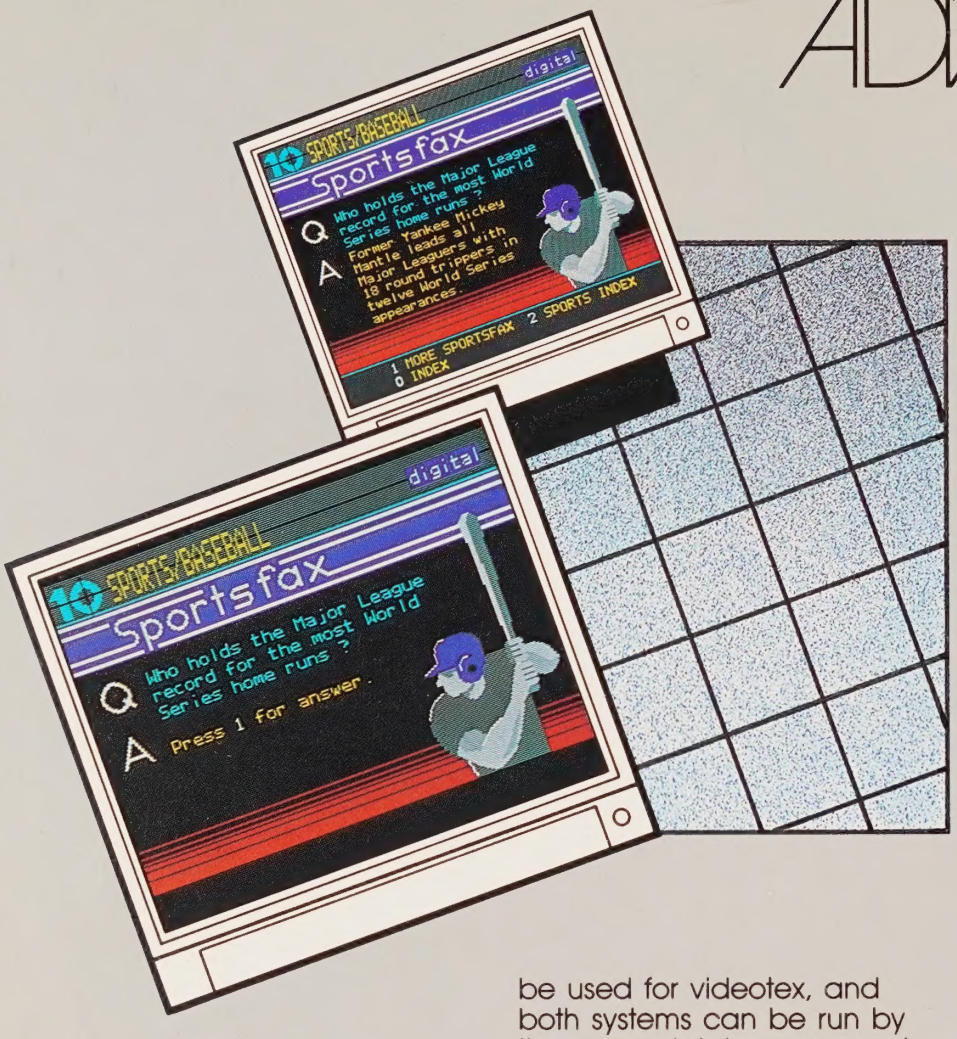
The CBC service has provided a test bed for some of the most sophisticated NABTS software and equipment available today. Many Canadian companies described in this booklet worked closely with the CBC to develop a broadcaster-oriented, fully integrated and tested service. The variety of information feeds, language requirements, time differences, automatic updating and closed captioning features make this system the most advanced teletext service in the world.

Due to their extensive experience in the teletext field, Canadian companies recently won a contract with the University of Alaska to provide a complete teletext service for off-campus students. Used in combination with the university's teleconferencing facilities the 250-page satellite-based teletext service will enable students in remote areas to receive work and using telephone audio conference calls, discuss assignments with the instructor. Computer software can be downloaded to students using Apple II micro-computers at home. This is just the beginning of a whole new range of applications for teletext as a delivery vehicle for the large home-computer market.



TVOntario, a public broadcasting network in Canada, has offered a teletext service using Telidon-based Canadian equipment since 1979. Following successful early trials, TVOntario now offers its EDUTEL teletext service commercially.

ADVANTAGES FOR VIEWERS



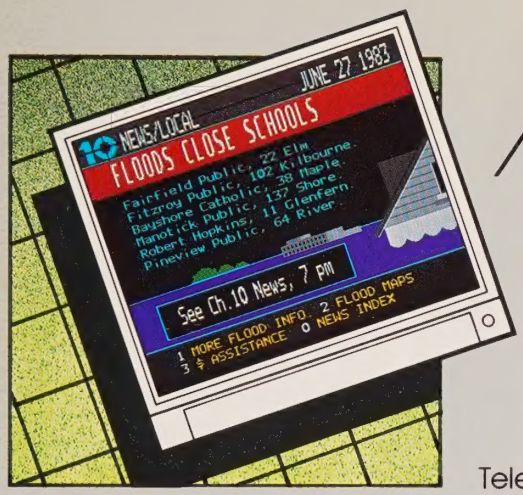
Teletext is **easy to use.** It is as easy to use as the television. There are no calls to make, passwords to remember or computer languages to learn. Information is direct and easy-to-understand.

Teletext is **concise.** Information is transmitted quickly, using short texts supported by graphics. Journalists and page creators are designing visually informative pages uniquely suited to this new medium. For example, a traffic report may be accompanied by a map, with flashing red arrows to indicate trouble spots. Pages are crisp, and NAPLPS graphics are **visually appealing.**

This 150-page teletext magazine provides information on the arts, community events, health care and education, news, weather and financial services for students and educators throughout Ontario.

TVOntario and the University of Alaska's systems are fully integrated for NABTS teletext and NAPLPS videotex services. Teletext pages and software can be used for videotex, and both systems can be run by the same database computer. These systems use a unique dual-mode teletext and videotex terminal and the TVOntario system includes a built-in local database for storage and instant access to sophisticated learning packages. This level of system integration is only available to broadcasters and information organizations using NABTS technology.

Canadian companies are the only suppliers who have installed complete systems, on-schedule, with no down-time for the broadcaster. We offer higher quality, lower prices and more experience.



ADVANTAGES FOR TV STATIONS

Teletext is **timely.** Viewers can find the latest information including special bulletins, election returns and the lowest air fares.

Teletext is **schedule-independent.** Viewers don't have to wait for the evening news. They can access information when they want it, for as long as they want it. In this way, teletext is **viewer-controlled.** Make sure your teletext service and your programming are their first choice.

Teletext **complements regular TV programming.** Teletext magazines can be matched to TV programming. Let your viewers know about upcoming specials or schedule changes. Or create a sports magazine to supplement weekend sports programming. Or broadcast recipes during cooking shows.

Teletext is **free** to users with decoders. Teletext earns the broadcaster revenue through advertising. Start working with your advertisers and build their loyalty.

Teletext is **personal.** Viewers are actively involved in selecting the pages they wish to see. This gives **high impact for advertising.**

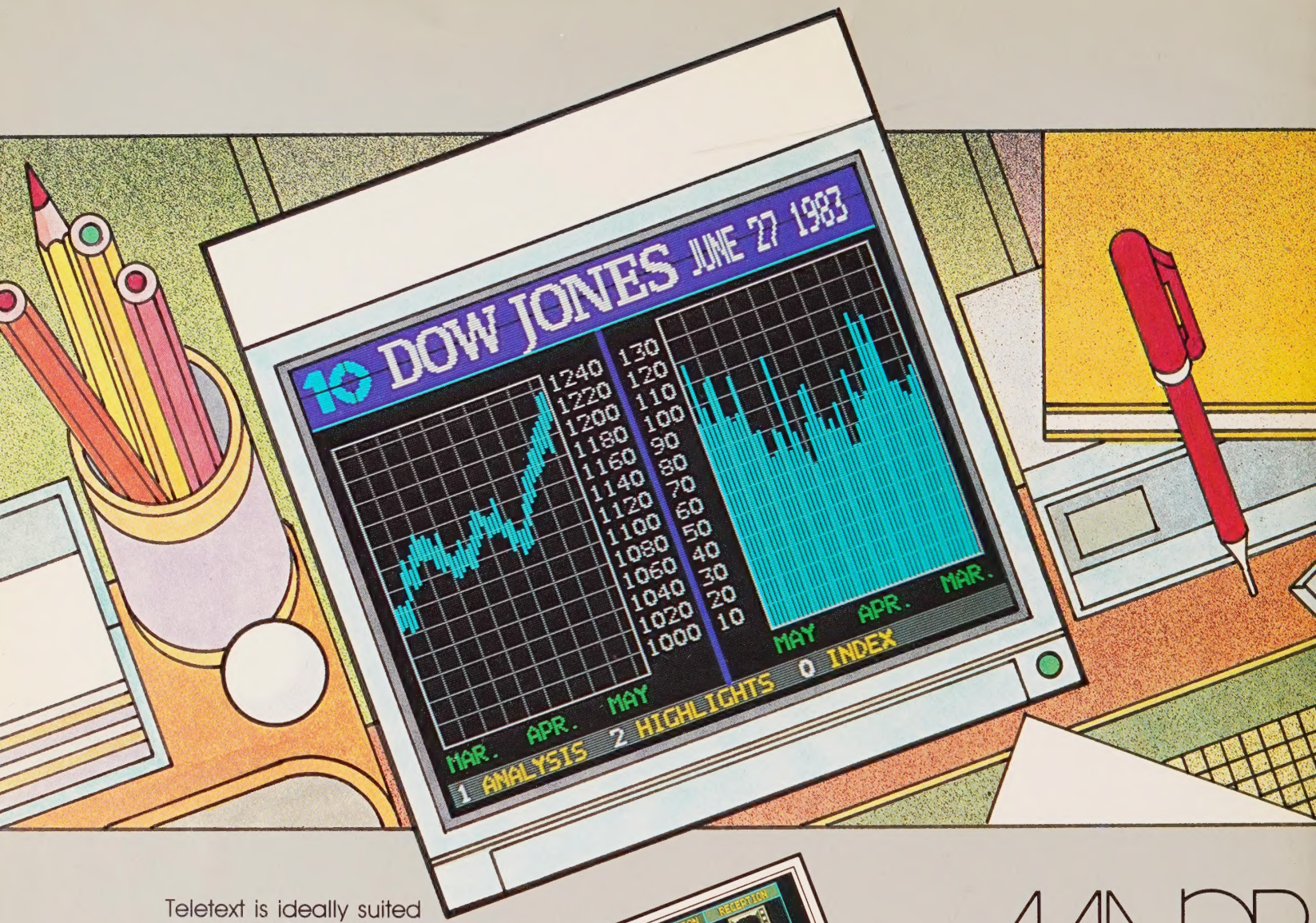
Teletext means **low start-up costs.** Teletext is a mass audience medium. Unlike other information technologies, once a teletext system is in place, it can serve an unlimited number of viewers.

Teletext is an **electronic publishing service.** Electronic delivery systems are replacing print media. Teletext is the path for broadcasters who want a share of this market.

Teletext **expands audiences:** Teletext information, general and specialized, can attract new viewers. Create your own innovative service and enhance viewer loyalty. Applications are limited only by the imagination.

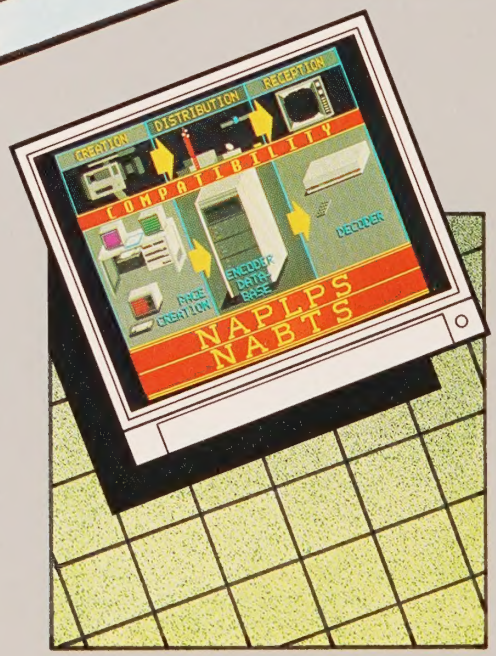
Teletext is **a new advertising medium:** With a potential market of every home, teletext offers advertisers important revenue opportunities for the 80's. It's also perfect for sales briefings and staff seminars, in-store promotions or shop window displays. We can help you and your advertisers start exploiting these far-reaching opportunities now.

Teletext **protects your revenue base.** Teletext can deliver audience attention. North American studies show that 30 per cent of viewers go directly to teletext immediately after turning on their TV. Make sure your station is the one they choose for teletext and stay with for TV programming.



Teletext is ideally suited for **local information:** You can provide a national network service, or supplement it with local news and advertising on the station-owned VBI with minimal effort and expense.

Your audience is becoming increasingly sophisticated. Meet their rapidly growing demand for instant information — the instant they want it — with a teletext service carrying national and local information.



MAJOR CHOOSE

Why did Major U.S. Broadcasters and Cablecasters choose NABTS Teletext?

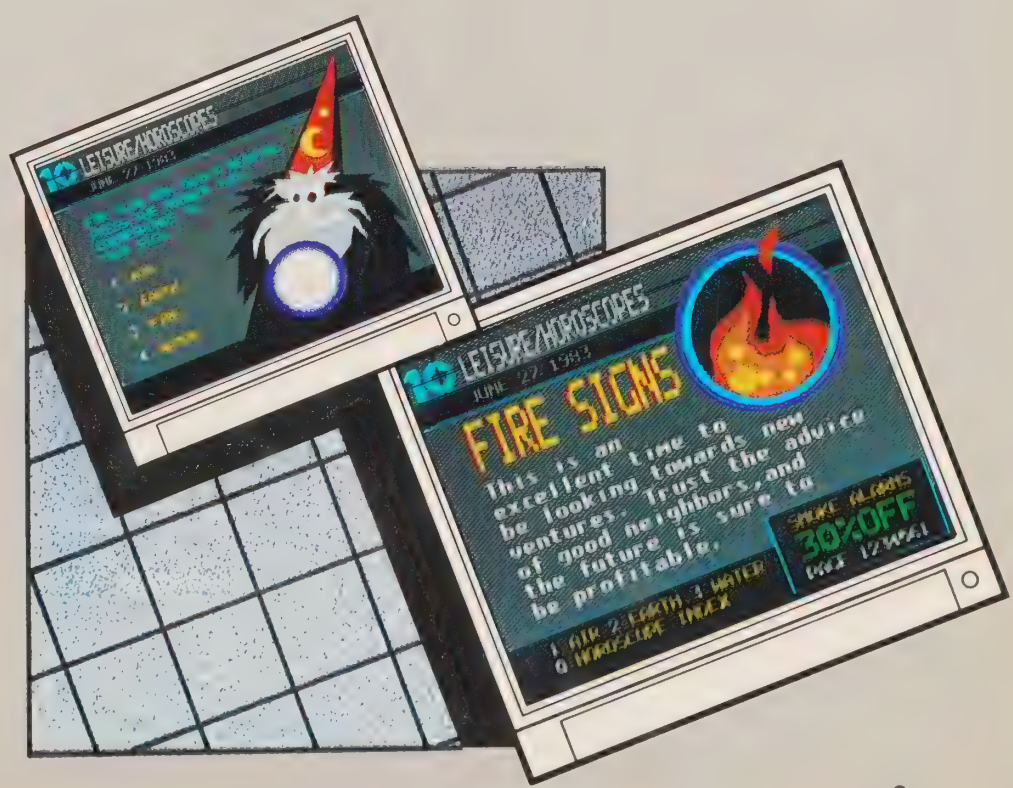
Leading North American networks and cablecasters are already operating NABTS teletext services. They include CBS, NBC, PBS, CBC, and Time Inc. They chose to back performance, because they know:

NABTS is the most efficient teletext technology in the world. NABTS equipment allows faster page creation, requires less operating staff, and reduces overhead costs.

BROADCASTERS NABTS

NABTS is fully integrated with the NAPLPS videotex standard, allowing greater interchange of system components and information. NABTS' superior graphics are an important advantage in attracting audiences and advertisers in an increasingly competitive marketplace.

NABTS offers more flexibility. A wider range of colors and sophisticated design features enable your staff to produce the most unique and creative pages.



NABTS offers a more effective information management system to handle the complex task of gathering teletext content from your station's many sources of information.

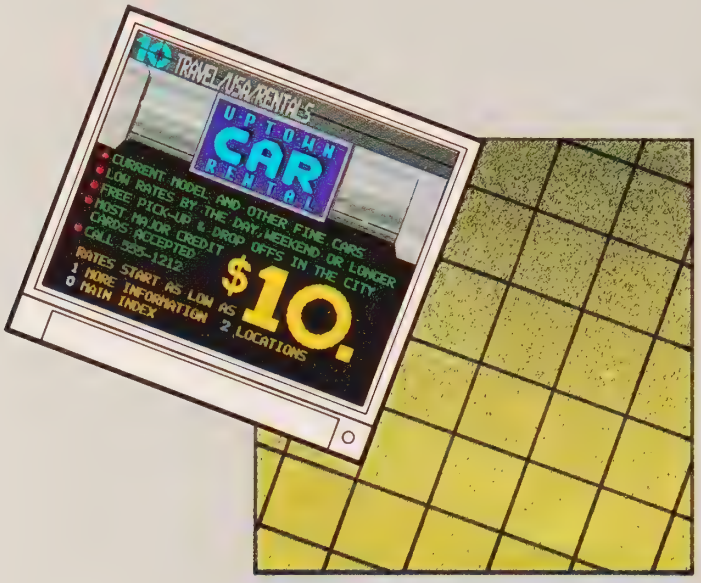
Don't be caught backing the wrong horse. Choose NABTS and avoid the problems of incompatibility. Choose Canadian companies which have delivered complete NABTS systems. Choose expertise. Begin to develop your teletext service slowly, and systematically. Be ready for the teletext market as it develops in the mid-80's.

Teletext. You can't afford not to invest. Let us help you to prepare carefully for this new market.

YOUR TELETEXT PARTNERS

Advertisers and Information providers:

Bring in new advertising accounts. Independent consulting companies estimate the gross revenue from a local VBI teletext service to be in the range of $1.5 million per year.



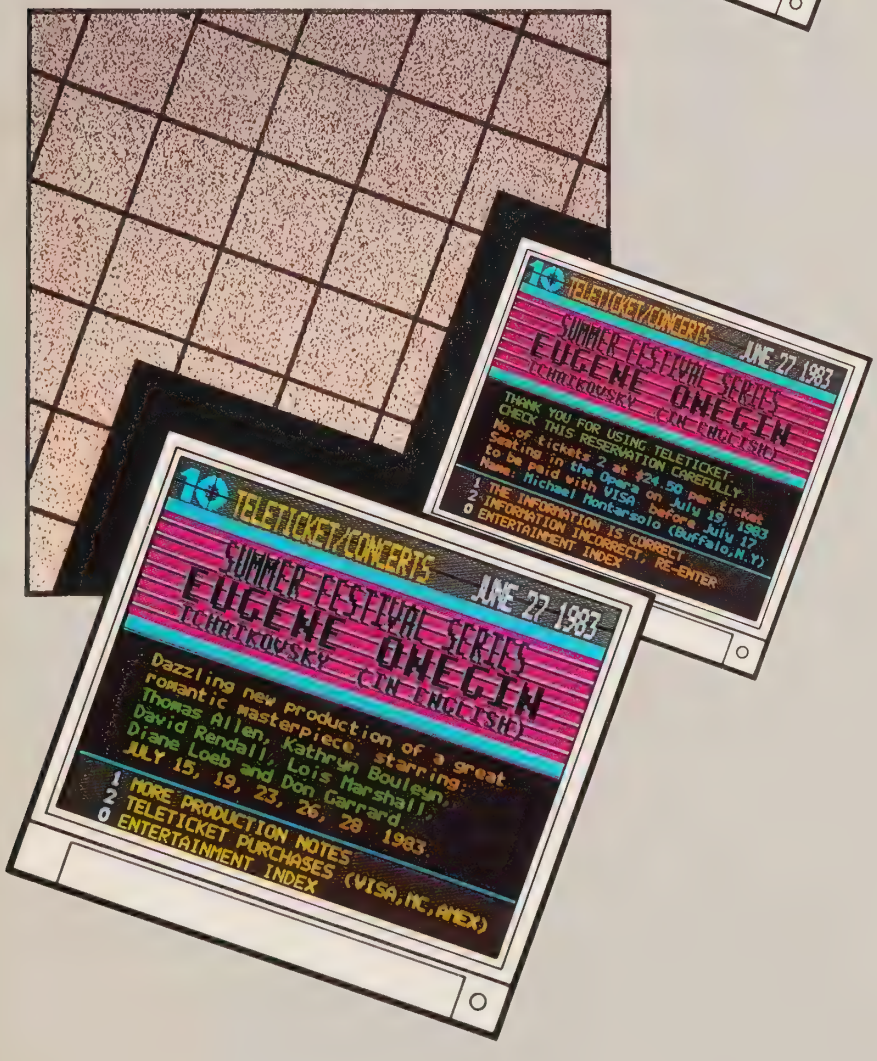
Teletext is a powerful community advertising medium. Teletext messages can be overlaid on national video advertisements to let consumers know where a nationally-advertised product is available in their area. Local specials can be announced on nationally advertised products.

Advertisers demand high quality graphics. As in television, visuals are the centrepiece of teletext service. Only NABTS technology can provide the high quality graphics expected by information providers, viewers, and advertisers. Your advertisers have invested heavily in developing high quality, distinctive company logos. Only NABTS/NAPLPS graphics can offer the range of colors and detail required to reproduce sophisticated ads and logos.

Create the best pages in the field — in less time. Using NABTS equipment, superior quality ads can be ready for air in less than an hour. Time-sensitive information such as available seating can be provided right up to curtain time. Complete designs, or just some of their elements, can be instantly duplicated or stored for re-use. NABTS features save time, so fewer people can create more pages. Here's how.

Because teletext is uniquely suited to provide the latest information, your audience will come to depend on your teletext service for sports scores, community billboards, weather reports, supermarket specials and clothing sales, traffic reports and more.

Leading advertisers and information providers will want to be associated with teletext information. Start now to develop a teletext service specially designed for your local audience and be prepared for the development of the home market in the mid-80's.



Listed below are the names of some companies who have been involved with teletext and videotex services. Aren't these the kind of people who you will want to do business with in the future?

Air Canada
Allstate
American Express
ATT
ATEX
AVIS
Bank of America
Bank of Montreal
Bell Canada
Leo Burnett
Canadian Broadcasting Corporation
CBS
Continental Telephone
CTV
Digital
Dow Jones
Field Enterprises
Foote Cone
Ford Motor Company
General Motors
GTE
Hilton Hotels
Holiday Inn
Honeywell
IBM
Key Com
Knight Ridder
Levi Strauss
McCann Erikson
Merrill Lynch
NBC
Northern Telecom
Newsweek
Panasonic
Pfizer
Proctor and Gamble
Ralph's Grocery
Rogers Cable
Joseph E. Schlitz Brewing Co.
Sony
Statistics Canada
Ticketron
Time Inc
TWA
TVOntario
UPI
J. Walter Thompson
Western Airlines
WETA Public Broadcasting
Young and Rubicam

SPECIAL APPLICATIONS

Broadcasters play an important role in the community. More and more, they are being called upon to provide services for the handicapped, the hearing-impaired, the sight-impaired, special cultural groups, and minority language audiences. Teletext is a low-cost mass audience technology which allows broadcasters to carry out these community responsibilities cheaply and more effectively. For example, Canadian captioning systems already have dual line 21 closed captioning/NABTS capabilities.

NABTS technology offers more effective color combinations for captioning, zoom features, multiple languages and different text sizes for varying degrees of visual difficulty.

Public broadcasting stations will want to consider the powerful educational and staff training applications developed by TVOntario and the University of Alaska on their fully integrated teletext and videotex systems.

Be the first to provide these important community services, using technology ideally suited for all kinds of audiences.

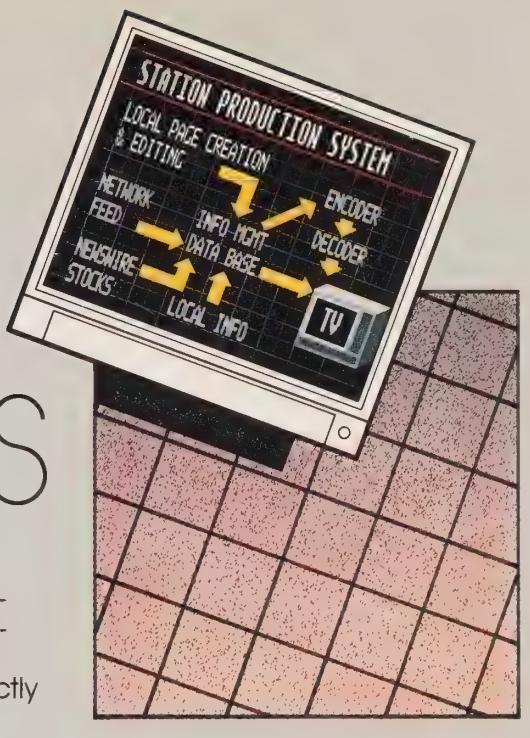
FUTURE TELETEXT DEVELOPMENTS

Teletext carries far-reaching possibilities for the broadcaster today and tomorrow.

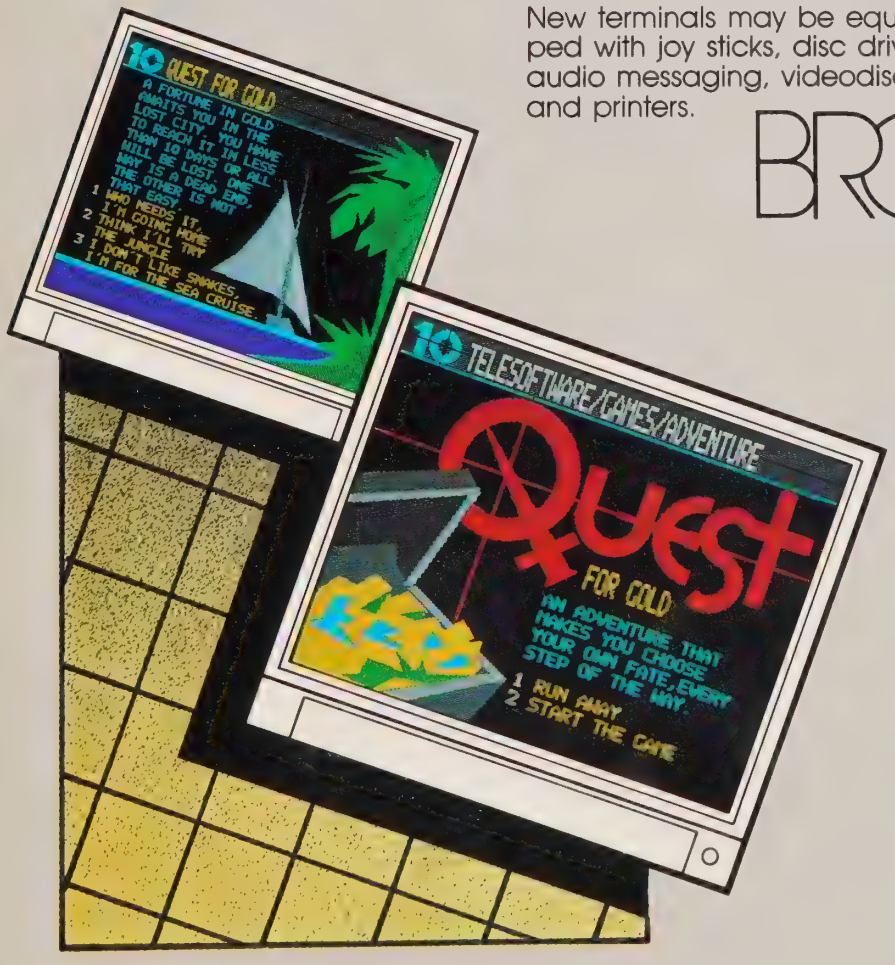
Thanks to a common standard for page creation, storage and display, NABTS teletext can be linked to NAPLPS interactive videotex services through hybrid systems.

Enter the computer games market through teletext telesoftware, which allows computer programs broadcast over teletext to be fed directly into a micro-computer. Coming soon are digital audio, enhanced telesoftware, photo-quality graphics capability and many other features.

New terminals may be equipped with joy sticks, disc drives, audio messaging, videodiscs and printers.



TELETEXT AND THE BROADCASTER



Large-scale teletext systems can present a difficult information management task. Your station will be constantly receiving information in many different forms, from many different sources. With the development of various nation-wide NABTS teletext services, Canadian systems have been designed to handle the diverse information management requirements of broadcasters.

Stock and news wire services, community organizations, station newsgathering teams and national networks will all provide information for your teletext service. They may send it by microwave, satellite, video feed, telephone, mail, wire or facsimile. As the service operator, you must review the information for legal, stylistic and editorial issues, schedule a display time, insert it into the broadcast cycle, and store the data after the broadcast for re-use and updating.

Canadian companies have automated these complicated tasks through special software for information and data management systems. Working closely with broadcasters, we have developed fully integrated systems to reduce staff costs and maintain high levels of service and reliability. For the same price, these systems offer substantially more functionality and operational cost-savings than competing systems.

Our companies have a long-standing record of success as suppliers of teletext system components, software and training programs. From installing the first U.S. second-generation alphageometric teletext system in 1979 to supplying equipment for the latest Time Inc. and CBC national services, Canadian companies have the experience and the expertise to install your local system.

EQUIPMENT

Here are the main components of a typical system:

Page creation terminal

Page creation systems enable reporters and graphic artists to create teletext pages for use on the teletext system. Regular station staff can be easily trained to create text and graphics quickly and efficiently.

Canadian companies have supplied more than 500 stand-alone page creation systems for videotex and teletext projects. In operation, these terminals have been found to be highly-efficient production systems.

Encoder/Inserter

The teletext encoder translates information from network feeds and station productions into NABTS teletext format for transmission across the VBI, or on dedicated or open television channels.

Decoders

Teletext decoders receive the teletext signal and display it on the home TV set. Consumer-priced decoders will be available in the coming months.

Information management/database system

An information management system creates, updates and schedules multiple teletext magazines for each broadcast day. The database provides storage space, improves the organization of stored information and allows for on-line updates and editing, automatic logging, and timed transmission of data. Other features include automatic system monitoring, special editing functions and automatic page creation.

1. TAKING THE FIRST STEP

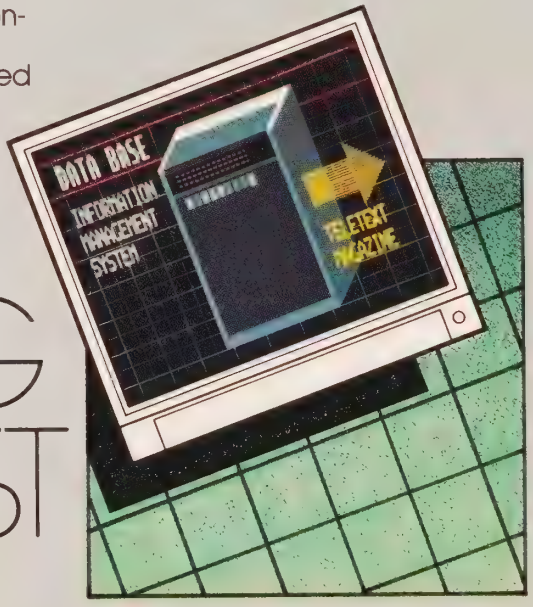
Begin planning your own local service. Buy a decoder and monitor the national teletext feeds to help you identify new business opportunities for teletext.

Benefits

- minimal capital investment
- no additional staff required
- minimal financial risk
- identification of business opportunities

2. GAINING EXPERIENCE

Installing a page creation system enables your station to create teletext pages and NABTS-style graphics for a variety of immediate revenue-producing opportunities. A range of page creation systems is available according to your operational needs.



Benefits

- journalists and production staff develop content-creation skills
- audience research can be carried out on the impact of teletext graphics
- immediate savings through enhanced graphics production for local video and audio-visual presentations.

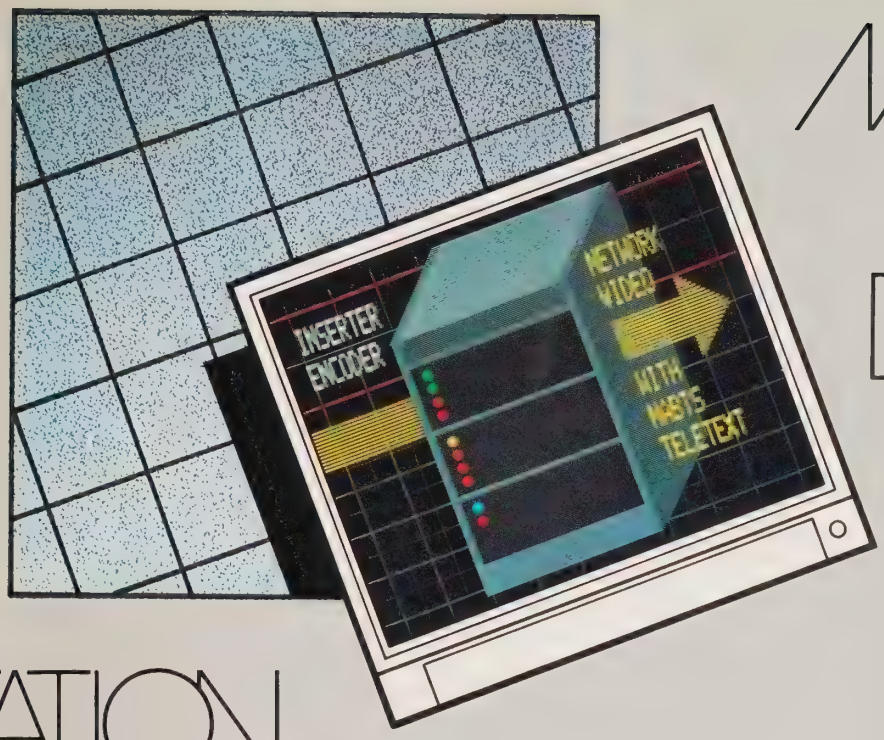
3. FULL SERVICE IMPLEMEN

Add an encoder/inserter and you are ready to operate a full teletext service. Canadian NABTS encoders allow teletext to be transmitted continuously with your broadcast signal, either in the VBI or full-field mode.

Complete your teletext capability with an information management/database system to organize your service.

Benefits

- fully operational, revenue-producing service
- reduces staff and information management costs
- enhanced viewer service



MAKING TELETEXT DECISIONS

Act now. As European experience indicates, the market is growing fast. The North American market promises to grow even faster once inexpensive decoders are available. Now is the time to prepare.

TATION

DOES NABTS TELETEXT COST MORE?

Decoders

Manufacturers of competing technologies have been saying that NABTS decoders cost more. That simply is not true. U.S. consulting studies have found there will be virtually no price difference for decoders. And NABTS decoders outperform competing systems, offering more memory, faster access time to information, superior graphics, and resistance to obsolescence. Major consumer electronics firms in North America and Japan are gearing up now for the mass production of consumer-priced decoders.

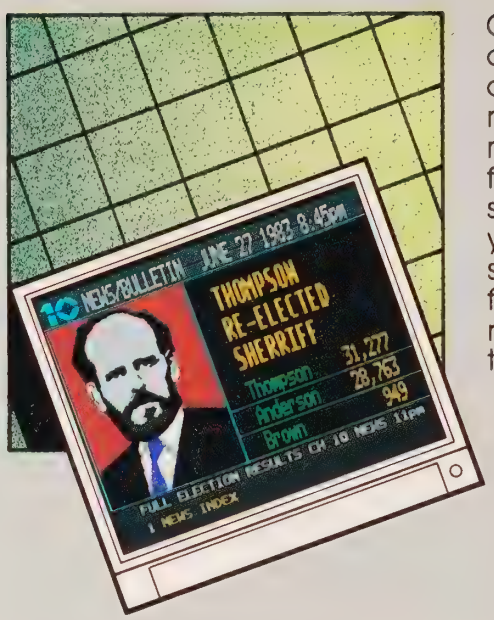
Full teletext systems

Don't be misled. Canadian companies offer low-priced, reliable NABTS teletext systems that will outperform competing systems and save you money.

Our systems have been developed by broadcasters to meet broadcasters' requirements. Our systems use the latest computer technology and software to automate the page creation process and save on the most substantial costs of a teletext service: staff costs.

Our NABTS systems are the most advanced in the world. They have been proven in the broadcasting enviroment.

Compare for price and performance: You'll find our systems cost less, create superior graphics, and deliver 2-3 times more teletext pages than our competitors.



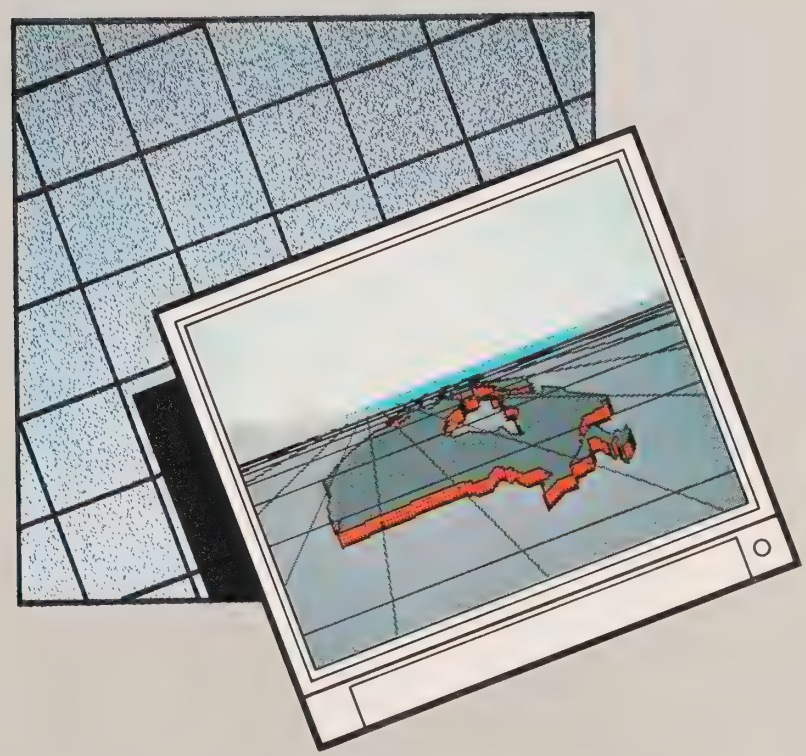
Compare for research and development support: Canadian industry and government research labs are spending millions of dollars developing fully compatible teletext systems for the future. Protect your investment. Choose a system for tomorrow that is fully supported by extensive research and development today.

Compare for compatibility: We developed the NABTS systems now being used by leading U.S. broadcasters and cablecasters. These systems are already fully compatible with North American videotex standards, telesoftware and many home-computing services. Competing technologies were not created to suit the North American marketplace and TV standards.

Compare for service: Our systems have been specifically designed for broadcasters in North America. We have the expertise to customize software to meet your technical requirements and your budget. We're only a phone call away.

Leading broadcasters in the U.S. and Canada have chosen to back performance. You should too. Consult the attached directory for companies you want to work with.

COMPANY PROFILES



NORPAK CORPORATION

Introduction

NORPAK Corporation was founded in 1975. It develops, engineers, manufactures and markets a range of color graphics display terminals and associated digital electronic hardware.

In the mid 70's, responding to an open request-for-proposal from the Canadian government's Communications Research Center, NORPAK found itself doing developmental work on pre-Telidon prototypical equipment. By 1979, with Telidon receiving international attention, NORPAK Corporation decided to enter this new field.

Products and Services

NORPAK has become one of the major suppliers of videotex and teletext equipment. NORPAK's product line includes videotex and teletext decoders, teletext encoder systems, page creation terminals, and local page creation and display presentation sytsems. NORPAK products implement the North American videotex standard, NAPLPS, and the North American Broadcast Teletext Standard (NABTS). NORPAK Corporation also offers other services including:

- systems design and implementation
- consultation
- training and seminars
- leasing
- warranty package
- OEM and distributor agreements

NORPAK Corporation maintains several facilities in Canada and the United States. Two buildings in Kanata, Ontario house corporate headquarters, engineering and marketing offices, the Hemton Group and final product assembly. The original plant in Pakenham, Ontario (from which NORPAK's name is derived) constitutes the main production facility. In 1981 Noranda Mines through its wholly owned subsidiary Maclaren Power and Paper acquired a substantial interest in NORPAK Corporation.

Also in 1981, NORPAK gained full ownership of Hemton Corporation, a leader in the field of videotex presentation systems. Services offered by NORPAK Corporation's Hemton Group include:

- custom page creation
- an electronic library of graphic images to assist your own page preparation
- expert page layout and design services
- 35 mm slide preparation

Some of NORPAK Corporation's recent ventures include an agreement with Infomart of Toronto and Time, Inc. of New York, to provide Time, Inc. with a full channel broadcast teletext system; an agreement with the Canadian Captioning Development Agency to provide a NABTS and line 21 Captioning System; development of a teletext decoder for the Canadian Broadcasting Corporation; and development of teletext encoding systems and decoders for TVOntario.

For more information:

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Telex: 053-4174

NORPAK Corporation
Mr. Bob Croll,
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Connecticut, 06902
U.S.A.
Tel: (203) 327-7596

INFOMART

Introduction

Infomart is one of Canada's leading electronic publishers. With information becoming an increasingly valuable commodity and with advances in computer and communication technology, the world is rapidly entering the Information Age.

Infomart's role is to respond to market demands and to package and distribute information and related services to subscribers in homes, offices, and public areas.

Infomart can provide instant access to useful information and services to mass audiences at affordable prices.

Formed in 1975, Infomart is a partnership of two of Canada's largest publishing and communication companies – Southam Inc. and Torstar Corporation. In Canada, it has a team of over 200 people with offices in Toronto, Ottawa and Winnipeg.

In the United States, Infomart has joined with Times Mirror Videotex Services of Los Angeles to form Videotex/America. This company operates videotex systems in the United States and is Infomart's exclusive agent in that country for videotex software and services.

Three Publishing Services

Infomart is active in all three of the essential aspects of electronic publishing. It

- operates systems
- develops systems software and
- creates database content

System Operation

Infomart operates five electronic publishing services in Canada. Four of these are videotex systems that use Telidon, the videotex computer language invented in Canada by the Federal Department of Communications' research laboratory. It is the most advanced videotex system in the world and is the basis of the North American Standard.

Infomart's four Telidon-based operations are:

Grassroots — The advanced videotex service for agribusiness and the first commercial Telidon system in the world;

Cantel — The Government of Canada's videotex service providing government information through public access terminals located across the country. Infomart's Ottawa office manages this system on behalf of the government, as well as providing complete Telidon services to other private user groups;

VISTA — The largest consumer videotex field trial in North America now operated by Infomart's Toronto office on behalf of Bell Canada;

Teleguide — The major new commercial videotex service that provides a comprehensive visitors' guide to Toronto using hundreds of public access terminals located throughout the city.

Private File Service — Infomart's database search service for corporate and public sector clients. It is the most sophisticated information retrieval software package, able to store, search and manage textual data.

Software Development

Advanced electronic publishing systems require very specialized computer software to provide the services demanded by the marketplace.

Infomart's experience as a system operator has provided invaluable lessons in what software capabilities are required. The result of this expertise has been the design of Infomart Telidon System Software — Version Two.

It has been designed from the ground up to be the most effective videotex system available. And, its acceptance in the marketplace attests to Infomart's proven capabilities as a software supplier.

Creative Services

Infomart's third electronic publishing activity is the provision of complete services for the design and development of Telidon databases.

Infomart has large consulting and page creation groups in all three Canadian offices and extensive experience, having built more than 100,000 Telidon pages in the last three years.

Using a unique combination of computer and creative skills, Infomart offers information providers a full range of services from content selection through database design, production, maintenance and updating.

A Wealth of Experience

Infomart has been a major participant in the development of Canada's electronic publishing industry. During the last few years, it has gathered a wealth of experience in all key aspects of this new industry and has played a significant role in establishing Telidon's position as one of the world's most accepted videotex technologies.

For more information:

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Toronto, Ontario.
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Tel: (416) 489-6640
Telex: 0622111

Videotex/America
2375 Morris Ave.,
Ervine, California 92714

SYSTEMHOUSE INC.

Introduction

Systemhouse is a leader in North America in the videotex and teletext systems integration and consulting field. Systemhouse has over 700 professionals on staff and 18 field offices in the US and Canada from which to deliver teletext systems in the USA.

Systemhouse has been working with videotex/teletext since 1979. Its teletext experience includes the Canadian Broadcasting Corporation's (CBC) IRIS national teletext service, and the University of Alaska's Broadcast Teletext Distribution System. For the latter Systemhouse was the system integrator and the prime contractor. Both systems use the NABTS broadcast teletext standard, and the NAPLPS presentation level standard.

Systemhouse is one of the companies being actively evaluated by NBC as a supplier of teletext goods and services to its affiliates.

Our Approach

Systemhouse has developed in a time of rapid change in the computing field. Its reputation has been established as the bridge between the new technology and the user in this rapidly changing environment. Systemhouse makes it a point to remain state-of-the-art in any field it enters.

Systemhouse believes in results, using people with expertise in the client's area of business to produce systems that work for people, and that produce revenues and not system headaches.

Systemhouse makes a corporate commitment to stand behind its system and can commit to fixed price contracts with deadlines based on clear deliverables, or work on a shared teamwork basis to complement clients' in-house expertise. Its size, depth, financial resources and managerial ability back up its commitments and systems.

Local Support

Systemhouse has offices in 6 US centers: Washington, D.C., Chicago, Cleveland, Boston, Los Angeles and San Francisco. Expansion plans include future office openings in most major US metropolitan areas. Through these and Canadian offices it can provide the local support for training, trouble shooting, and custom development required for your teletext system. Systemhouse has grown primarily because of its success at forming long-term relationships with customers. Systemhouse can support and enhance installed systems.

Full Service

Systemhouse has become a leader by providing full turnkey operations and full integration of hardware/software from many suppliers. By taking full responsibility for dealing with the multitude of vendors, and by ensuring their equipment is compatible with that of other suppliers, Systemhouse allows clients to focus on their business, not in solving system problems. Customers need not be linked into one supplier of hardware. Systemhouse takes on the role of the systems integrator — selecting and integrating equipment that best meets requirements of individual businesses.

Installation and Site Preparation

Systemhouse takes full responsibility for all aspects of hardware acquisition and installation on site. Its track record for such work includes system installations in Alaska, Australia, India, an underground military installation in North Bay, Canada, and several installations in the U.S.

Training

Frame creators, editors, system operators, information providers and other staff require training in teletext. Systemhouse can design and deliver high quality training to ensure a smooth start-up to teletext operations.

Customization

Systemhouse has a reputation for building large and small scale custom computer systems. It can tailor a teletext system to meet individual requirements easily and quickly.

Systemhouse is an integrator of hardware and software and can adapt new systems to be integrated to existing systems. Since it is also a highly diversified company involved in business graphics, banking, real estate, military and other systems, it can help with system requirements using all types of hardware including IBM, Wang, Hewlett-Packard and Digital Equipment.

For more information:

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General Manager
Videotex Systems & Services
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THE GENESYS GROUP

Introduction

The Genesys Group is a wholly Canadian owned and operated company. Founded in 1975 by Gunter Kurz and Michael Gough, the Group has had an exciting growth, funded from internally generated funds.

Products and Services

Initially formed to provide software consulting and contracting services, the Genesys Group expanded its interests, pioneering and developing the Telidon Host Computer Software. This proved to be the spark that thrust Telidon to the forefront of international videotex technology. In fact, AT & T have adopted Telidon as the North American standard for the videotex industry.

In May 1981, Genesys initiated its marketing program, displaying the Genesystem 20, a low cost, high performance Telidon database system, which has received acclaim from private industry.

Today, Genesys is entering the broadcast teletext market, supplying databases, page creation and videotex editors to the new electronic home "magazine". The company worked alongside the Canadian Broadcasting Corporation to develop "IRIS", Canada's first commercial teletext. At the same time, it was involved with the University of Alaska in the creation of their teletext system.

Genesys has negotiated distribution agreements in the United Kingdom, Australia, Japan and the United States. Clients include the Government of Canada, Mitsui of Japan, the Mitre Corporation of Washington, D.C., MacroTel of Buffalo and the Graham Poulter Group of the United Kingdom.

From its beginning in 1975, Genesys has grown into a multimillion dollar company with a potential as great as Telidon and videotex itself.

For more information:

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The Genesys Group,
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Ottawa, Ontario,
Canada K2C 3J2
Tel: (613) 226-8740

ST. CLAIR VIDEOTEX DESIGN INC.

Introduction

St. Clair Videotex Design is a marketing and creative service for Telidon applications in both the teletext and videotex fields.

Its marketing services are based on an advertising background which has been translated into a successful communications strategy for the new electronic media.

Services

With a thorough understanding of teletext and videotex advertising, St. Clair Videotex Design has developed marketing strategies for groups newly entering the medium. Its goal is to aid these groups in the following areas:

How to present teletext as an advertising tool to corporate and other advertising clients. This includes the vital use of stand-alone units for mobile practical demonstrations.

How to identify traditional advertising demands which can be successfully translated to the teletext medium. This involves proposals recommending applications which include database design and creative planning, as well as options such as sponsorship. Teletext requires a special approach to advertising content, oriented towards user benefit.

How to interpret "audience" reach in terms of conventional measurements.

How to set up, organize and promote your own page creation facilities.

Consulting services also cover:

How to structure advertising content on teletext, (including also the option of local overlay material on nationally broadcast "master" content).

How to design pages for teletext, especially in relation to the demands of either open channel cable or VBI broadcasting.

The importance of graphic content and style in communicating different messages.

The effect of graphic content and style on the user/audience.

Production facilities are geared to both teletext advertising and editorial content. The creative approach is fully integrated with marketing strategies. Together, these services offer:

The production of demos for presentations including dummy database structures and page creation.

The production of syndicated packages for editorial content on teletext, such as astrology, trivia and sports information.

The use of teletext pages in conventional media, such as transfer to print or videotape. This is an especially important service for advertising clients who wish to use teletext pages in their traditional advertising and merchandising projects.

In addition to these services, St. Clair Videotex has a training program on Norpak page creation and display terminals.

St. Clair Videotex Design's creative facilities have established an international standard for excellence and originality. With comprehensive marketing and creative services, the company offers the best combination of experience, skills and talents for your teletext project.

For more information:

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FAXTEL INFORMATION SYSTEMS LIMITED

Introduction

Faxtel is capable of building complete teletext systems, devising content applications, providing page creation services, editorial, graphic design and telesoftware expertise.

Marketfax Stock Market Teletext Services

Faxtel operates Marketfax, an on-line NAPLPS-based service providing user-defined stock and commodity technical analysis charts. Marketfax produces dynamic color charts from an extensive historical database covering the New York, Toronto, American and Vancouver exchanges. Faxtel is now developing teletext packages drawn from this extensive source. These packages are tailored to the needs of each teletext operator and contain "mover" stocks from all four exchanges on the system. This teletext service is accessed on-line by file each day by the teletext operator and downloaded to a teletext host for immediate insertion into a blanking interval or full-channel service. The package is tailored on the Faxtel host computer with the teletext operator's logos and identity graphics, if required.

Statistical Software

Besides the Marketfax packages, Faxtel offers software to transform statistics into powerful charts and graphs. This software is particularly useful for operators with on-going daily editorial needs, where speed of page creation counts. This software also accommodates a teletext service's logos and identities to give a professional customized look to your active cycle.

Cabletext

All of the Faxtel content services are also available to cable operators using NABTS teletext. Faxtel can also provide videotaped cycles of Marketfax charts.

Faxtel Teletext Expertise

Faxtel teletext projects and services are headed by Tom Thorne, Vice President of Development, whose working experience with teletext dates to 1978. He has direct experience with the British CEEFAX and ORACLE services, worked for three years on the TVOntario EDUTEL teletext service and took part in the initial meetings for the Canadian Broadcasting Corporation's IRIS system. Also during his time with TVOntario, he consulted with the staff of the WETA trial in New York and Washington, D.C.

Present Work

Besides the work now underway to provide Marketfax teletext packages, Faxtel is also working with a major Canadian and U.S. retail advertising agency in developing advertising approaches and creative work for the Canadian Broadcasting Corporation's IRIS project.

For more information:

Faxtel Information Systems Ltd.,
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TVONTARIO

TVOntario, now in its second decade, is a non-commercial, publicly funded provincial television network that has grown rapidly from a small regional agency to a world leader in educational broadcasting. TVOntario is dedicated to providing educational opportunities to the people of Ontario.

As part of this commitment, TVOntario has been exploring the educational applications of Telidon, the Canadian-developed electronic communications system. In the broadcast mode, TVOntario has had experience with a variety of different systems. The Communications Research Centre of the Federal Department of Communications developed an encoder/inserter that carried 20-30 pages at 3.9 mbs. Cableshare's developmental software was designed to drive the Norpak TES-1 encoder operating at 4.6 mbs. TVO settled on a simplified TES-1 set-up, broadcasting upwards of 100 pages from January 1980 through May 1983. Before using the TES-2, transmitting NAPLPS level pages at 5.7 mbs, TVO commissioned a VBI teletext management system from Infomart.

The TVOntario Telidon Network Project offers a broadcast teletext service (Edutel) and a videotex network service (Edutex). Database materials for both Edutel and Edutex include a variety of educational information and applications.
Edutel, the broadcast teletext magazine, provides information updated regularly on a variety of interests. These include news, educational features, weather maps,arts reviews, health stories and information on community festivals in Ontario.

Services

TVOntario offers the following teletext services:
1. Educational packages on a variety of educational and general interest topics. The following titles are representative of the content which has been created for the Edutel magazine: Today in Canadian History, Who Said It, Healthbeat, Canada Food Guide, Quizlers, Addiction/Stress Packages, Provincial History.
2. Consulting services on a limited basis for teletext system management and processing of information.
3. Page creation software, NAPLPS standard for use on Norpak IPS-2 systems and possibly others. "CREATEX" is fast, simple and easy to learn and use. It integrates page creation, text editing, color changes and the blink function economically and efficiently.

For more information:

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TVOntario,
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Tel: (214) 458-7447

FORMIC VIDEOTEX SYSTEMS INCORPORATED

Introduction

FORMIC VIDEOTEX SYSTEMS INCORPORATED is actively involved in the development of teletext software and systems based on a variety of micro-computers. FORMIC specializes in providing a full spectrum of teletext/cabletext products adapted to today's growing micro-computer environment. The aim is to provide customers with a complete and reliable stand-alone teletext system at an affordable price.

FORMIC's involvement in many TELIDON projects in Canada has given it extensive experience in a variety of teletext/videotex/cabletext applications. This has led to the development of a number of teletext software products, with an emphasis on user-friendliness and full functionality.

FORMIC's unique approach to the design of software systems means that with only one micro-computer you can now create your pages, manage the database, and totally control the scheduling of your presentations. FORMIC can offer teletext/cabletext software systems, or can design a system especially suited to clients' requirements.

Products and Services

FORMIC can supply the package software on ROM cards, or complete turnkey systems based on popular micro-computers configured to handle the specific needs of teletext/cabletext applications. These units are independent from the decoding or encoding system, and can therefore be used with a variety of teletext encoder systems or as a cable head-end in a cabletext situation. As well, these micro-systems can be used for regular business applications.

Page Creation System

Provides interactive page creation based on the NAPLPS and NABTS protocols. It can be used with any decoder system, and allows the user to create, edit and recall graphics easily and instantly. This system is compatible with any page creation and database management system. Its two-screen design allows the interactive choice of functions and attributes from one menu screen, and the visualization of pages on the other. It permits easy storage.

Stand-Alone Teletext/Cabletext Database

The storing capacity of this system is not limited by the disc system of the micro-computer. The FORMIC system allows the user to easily manage every function of the database, as well as create schedules for the presentation of different sets of pages at the cable head-end. The database terminal can also be programmed to simultaneously control a music soundtrack, the title of which can be superimposed and sent along with the scheduled pages to one or many TV channels at the head-end. This system works at multiple transmission speeds while still controlling the quality of the information it is sending.

Transmitter/Receptor System

FORMIC's modem communication software can also be integrated to your micro-based system. This software will allow affiliate stations to exchange parts of a databank to minimize the production costs and increase and automize the exchange of information. A main teletext/cabletext production center can thus supply updated information almost instantaneously to satellite stations. This downloading process can also be accomplished automatically in order to constantly refresh parts of the affiliate stations' databases.

Summary

FORMIC VIDEOTEX SYSTEMS INCORPORATED can provide cost-effective software packages well adapted to teletext and cabletext needs, or design systems for specific requirements.

Experience

FORMIC VIDEOTEX SYSTEMS has extensive experience with, among others, the Canadian Department of Communications, the Ministry of Education of Quebec, Systemhouse Ltd., the Ontario Federation for the Cerebral Palsied, Tevicore Inc., the University of Montreal and Guelph University in Ontario.

For more information:

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Longueuil, Quebec,
Canada, J4H 3W6
Tel: (514) 669-1121

MICROTAURE

Introduction

Microtaure has opened the doors of NABTS/NAPLPS to microcomputer users.

TELIgraph is the only software implementation of the NAPLPS standard available on the market today. No longer is it necessary to purchase and install another board for your microcomputer in order to satisfy your teletext/videotex requirements: TELIgraph is a full implementation of NAPLPS, at microcomputer prices.

For a fraction of the cost of a large hardware page creation terminal, you could have two diskettes and a manual which will turn your microcomputer into a complete videotex station for both the creation and transmission of NAPLPS pages. And, of course, when you are through with your videotex and teletext needs for the day, your computer is ready to tackle whatever other station business applications you may require.

TELIgraph's on-line decoder includes full communications facilities for graphics transmission or reception. The program has been torture-tested with files prepared to push any decoder to the extreme limits of NAPLPS.

There are a number of items important in the consideration of any page creation system. A few of TELIgraph's capabilities are:

- The page creation program uses a dual-screen approach for ease of operation: there is no need to flip between menus and the page being drawn.
- The monochrome menu includes a summary of the current system status and a list of the available commands. This screen is also used for the display of help-texts which are unique for each function.
- Sophisticated graphics can be created in up to 16 colors and almost limitless textures. Variable background color, highlighting and other features will enhance and sharpen your on-screen images.
- Geometric elements include point, line, arc, rectangle and polygon. All of these are drawn simply and accurately without the need for complex calculations on the part of the user.
- Graphic shapes are macrodefinable. Libraries of often-used shapes and symbols are easily assembled and result in impressive reductions in the time and cost of page creation.
- Shapes can be scaled and copied on-screen. Movement and rotation complete the ability to manipulate your pages.
- Text also plays an important role in the development of TELIgraph information pages. The standard character set includes all international characters and numerous special symbols. There is even a program which allows you to create alternate or custom character sets.
- Characters can be of any height and width. They can be colored as well as rotated and located on any pixel of the screen.
- Undistorted graphics printout is available in up to 5 formats, from playing card size to full-blown poster. All aspect ratios are corrected.

Microtaure has channeled all its graphics software expertise into the NABTS-NAPLPS domain. Full support will be maintained for our growing line of products.

TELIgraph is fast becoming available on a growing line of micro/minicomputers. Expansion modules will be released for the handling of a variety of peripherals including color printer/plotters and slide generators.

Future compatibility is inherent to NAPLPS and will be the case with Microtaure's 512 × 512 (and 1024 × 1024) displays as well as the graphics digitizer version of the software. These versions will offer the broadcaster the superior quality display he is used to.

Special configurations will soon be available for those with particular needs. Among these will be systems designed specifically for the broadcast and publicity industries, as well as scientific and business application packages.

For more information:

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LIMICON INC.

Introduction
Limicon is a software company which develops page creation, drafting, and computer-aided design systems based on the NAPLPS coding structure for microcomputers.

Products and Services
The company's first two products have been received enthusiastically since they were introduced earlier this year. GraphEase allows the user to draw NAPLPS pictures and type text. TELECALC II automatically generates NAPLPS full-color charts and graphs directly from VisiCalc print files.

All Limicon products produce full NAPLPS code. This means that the user has complete control over color definition, can define up to 96 macros, and can use blinking to animate pictures or call attention to specific parts of the page.

HOW YOU CAN USE GraphEase AND TELECALC II

News Shows
Both TELECALC II and GraphEase will allow you to prepare illustrations to make the news more understandable to viewers. This means that you can draw pictures and prepare graphs in minutes, to allow you to adjust to fast breaking news. You can also use GraphEase to write the names and titles of reporters and people being interviewed.

Sports Shows
GraphEase is small enough, light enough, and cheap enough to be sent with crews covering sporting events. The producer on the scene can use it to display scores and insert spot ads into breaks in the play.

Promotion
You can use GraphEase to identify movies that you are showing, to prepare credits for shows that you produce locally, and to produce ads for upcoming shows.

Animation
One television production company has used GraphEase to produce special effects animation. It took them less than 5 hours to produce 57 seconds worth of animation; the cheapest minute in the whole show.

Teletext & Videotex
Both GraphEase and TELECALC II can be used to produce pages for any NAPLPS teletext transmission or any videotex database. Or for preparing ads to be shown on a cable channel.

Selling Advertising Time
You can use TELECALC II and GraphEase to prepare a persuasive, and inexpensive, video-tape sales presentation targeting the areas of interest to each advertiser.

How GraphEase is Different From Other NAPLPS Page Creation Systems
1. Full NAPLPS — GraphEase generates full-capability NAPLPS code. Many other page creation systems only give you partial NAPLPS.

2. Speed — GraphEase's single stroke function keys mean fast drawing. And because GraphEase fits into the computer's memory, you never have to change diskettes or wait for the system to load the part of the program that you want to use.

3. Ease — We designed GraphEase with the artist in mind. So we've included dozens of features that make drawing fast and easy.

4. Price — GraphEase's low price allows you to buy several systems for the cost of a single one of most other page creation systems. And features aren't sacrificed.

Equipment Used by GraphEase and TELECALC II
What You Need — GraphEase can turn your ordinary micro-computer and color monitor into a NAPLPS page creation system. It currently runs on Commodore systems with at least 32K memory; versions for use on other equipment will be released soon.

What Limicon Can Supply — Everything that you need to turn your micro-computer into a GraphEase page creation system. This includes a NAPLPS decoder that connects to any NAPLPS database, teletext transmission, or NAPLPS files developed by affiliated companies. It also includes the GraphEase software, any interfaces and cables you will need and an instruction manual on how to use GraphEase. The GraphEase software can also be sold separately.

Product Description — TELECALC II
TELECALC II has a very specific purpose: it turns VisiCalc print files into NAPLPS graphics. You need only enter the print file and the type of chart (pie, stacked bar, clustered histogram, or line chart). TELECALC II picks the colors, sets the limits to the numbers, and labels the chart based on the print file labels. It can also add text and change colors.

TELECALC II runs on the same equipment as GraphEase.

Prices
The current price for either the GraphEase or the TELECALC II upgrade is $2000. If you buy both TELECALC II and GraphEase at the same time, the price for both systems together is $2300. These prices are subject to change without notice.

For more information:
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144 Hampton Avenue,
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Canada M4K 2Z1
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INTELFAX

Introduction

INTELFAX is an international and widely experienced teletext company. It can offer the television station owner, the cable operator, and the satellite broadcaster a range of services that fill an important gap, and it does this based on many years of experience.

INTELFAX manages services which are currently transmitted on VBI to potential viewers of over 2.7 million and on 'in-vision' to over 40 million viewers. It markets teletext and videotex expertise and can advise on all aspects of data communications.

Products and Services

INTELFAX offers services that will:

1 give initial consultancy advice on how to set up a profitable service;
2 design a system that suits individual needs;
3 supply this equipment and oversee installation and inauguration;
4 select and train staff, either in broadcasting studios or at one of its other operations;
5 prepare a detailed business plan against which to check progress of the new service;
6 advise on the best ways of creating and selling advertising;
7 keep clients informed of the latest developments in the field of teletext and related areas;
8 manage the entire service from beginning to end on a fee basis;
9 supply any one or all of the above services as individual units or as a package to suit unique requirements; and
10 offer seminars and publications to help businesses to get into this growing field.

STAFF

INTELFAX staff have:

1 set up teletext services for mass audiences
2 set up and run cable and satellite services in North America;
3 over 21 years of experience in teletext.

CLIENTS

INTELFAX can implement a service for television station owners to suit their needs. INTELFAX can give detailed advice on the equipment and skills needed to use the NBC or CBS network teletext signal to its best advantage, by adding local content and advertising. INTELFAX can discuss options and advise affiliates and independents on ways of producing early revenue.

For the cable operator, the advantages of teletext as a superior in-vision service producing cycling pages from text to color photograph level can be enormous, in both audience building and profit making.

For the satellite broadcaster, the transmission system can carry teletext as a value-added television' extra with a wealth of program material, helping to build audiences for the cable users or for DBMS or DBS broadcasts.

Intelfax has identified several crucial areas for starting up:

Building the audience

INTELFAX feels that viewer interest in teletext can and should be more profitably encouraged. Viewers can be motivated to buy into this by many means. Research shows that a large proportion of the audience most attractive to advertisers is willing to buy or rent a teletext decoder to receive the VBI service. Teletext can also be its own best promoter if transmitted during present 'dark time' as an in-vision service.

Frame creation

The text and graphics on a page should attract the eye and convey information effectively in order to motivate the viewer to read. INTELFAX staff have experience in using the available technology to create pages which will attract both viewers and advertisers.

Value-added TV

INTELFAX has initiated new ways to enhance existing television services by producing 'value-added' television. By giving TV program schedules and information, teletext can be a valuable supplement to a television service. This has important implications for audience building for the broadcaster, whether commercial or PBS.

Advertiser attraction

Improved design, increased audiences and TV enhancement will help to produce a higher viewer access rate, which in turn attracts sponsors and advertisers. INTELFAX can also help clients by showing how to extend advertising and also attract new advertisers to television.

NEW DEVELOPMENTS

INTELFAX staff have already pioneered new developments, such as telesoftware, and clients will have the benefit of informed advice on the latest applications of videotex and teletext technology for special needs.

Finally, now that the NABTS/NAPLPS standards have been clearly defined, we are in a marketing situation. Teletext *can* be a dollar earner — INTELFAX can help you do this successfully.

For more information:

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PHIPPARD AND ASSOCIATES

Introduction

Phippard and Associates provides objective, professional assistance to organizations contemplating or entering the challenging new fields of videotex, teletext, and related business graphics.

Strategic assistance in the accurate analysis of exploding business opportunities in these new fields facilitates their successful exploitation by clients. Strict confidentiality and discretion ensure that clients' strategies remain theirs alone.

Technical expertise assists in the design, integration, implementation, and management of the rapidly evolving videotex/teletext technologies, harnessing them to effectively meet client needs. Specific expertise features North American Presentation Level Protocol Syntax (NAPLPS) and the North American Broadcast Teletext Standard (NABTS), as well as earlier TELIDON protocols.

SPECIFIC CAPABILITIES

Strategic Planning and Evaluation:

- Business opportunities analysis,
- Business case preparation,
- Market targeting,
- Long term business planning,
- System implementation planning,
- Pilot project design and planning,
- Current research.

Technological Consulting:

- Technology trend analysis,
- Standards tracking,
- Cost factor tracking,
- Feasibility confirmation,
- System/approach/architecture/ structural design.

Procurement Assistance:

- Needs analysis,
- Software survey and recommendation,
- Tender preparation,
- Supplier Management,
- Acceptance testing,
- Installation management.

Education:

- Customized introductory seminars on videotex/teletext/business graphics for technical and non-technical audiences, and especially management.

EXPERIENCE

Phippard and Associates offers its clients ample experience in the above activities, and in a variety of applications including:

- Nationwide public (network) teletext,
- State-wide educational teletext,
- Private (closed) business videotex,
- Public access videotex,
- Financial analysis/automatic graphics,
- Public information dissemination,
- Consumer home videotex,
- Teletext technology commercialization,
- Videotex/teletext industry co-ordination,
- Videotex/teletext business development,
- Business promotion/business graphics,
- Content development.

This direct experience and capability are augmented by a wide variety of specialized skills from complementary companies. Each of these is an acknowledged expert providing goods and/or services in a related field, such as:

- Data communication,
- Micro-computer decoder emulation,
- Effective frame creation,
- Automatic frame generation software,
- Host software development,
- Application software development,
- Equipment engineering/ manufacturing,
- Operator training.

Phippard and Associates works with you from a position of mutual commitment to your success. Its role can vary greatly in scope, depending upon your requirements, from a "retained advisor" scenario to a position of responsibility for specific projects or deliverables. The technology is at once mystical and straightforward, simple and yet high in risk. The market is both exciting and dangerous. Phippard and Associates is dedicated to the concept of synergy, and to effective, competent assistance to its clientele.

For more information:

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BARROS AND ASSOCIATES LIMITED

Introduction

Barros and Associates Ltd was established in 1982 specifically to address the needs of companies involved in teletext projects that had not yet fully developed the whole range of required skills.

B&A is a consultant group with access to wide areas of expertise in the teletext/videotex areas, and related technologies and applications.

Members of the B&A group have played a major role in the implementation of videotex and teletext systems in the U.S., Canada, Venezuela and Australia. Prior to joining the Group, its members worked for such well established companies as Infomart, DEC, and Time Inc.

B&A is involved with Time Video Information Services Inc. in connection with Time's full channel teletext project. Other clients or projects that are related to teletext include Copley Newspapers, TVOntario, Cox Cable Communications and Homserv.

In addition, B&A has also been active in the drafting of the EIA North American Broadcast Teletext Specification.

B&A Services

B&A is well equipped to provide services as a prime contractor, or in a support role, in the following areas:

Systems Engineering:

- Identify client needs, and translate them into technical requirements
- Develop system specifications
- Select hardware components and/or prepare design guidelines for specific needs
- Generate software functional specifications
- Subcontract the development of specific components
- Supervise tenders, and help evaluate proposals
- Liaise with suppliers of both software and hardware
- Oversee acceptance procedures

Project management:

- Define project components, assign priorities, design project charts and identify critical paths
- Advise on work allocation to different subcontractors and other participants
- Monitor project progress, ensure timely milestone completion and warn of significant deviations

Installation support:

- Verify component compatibility at an early stage
- Coordinate and supervise hardware/software integration
- Lead the client's staff through the start-up phase

Training:

- Executives and line managers (implications of the new technologies, seminar approach)
- Operations staff (computer operators, installers, customer service representatives)
- Technical staff (engineers, technicians)
- Editorial staff (writers, editors, graphic artists)

In addition, B&A can (if required) procure the services of associated companies in the areas of management consulting: long range planning, marketing strategies and feasibility studies.

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